ROCKS and MINERALS

PUBLISHED MONTHLY

Edited and Published by PETER ZODAC

December 1943

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Entered as second-class matter September 13, 1926, at the Post Office at Peekskill, N. Y., under the Act of March 3, 1879

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specially written articles (as contributions) are desired.
Subscription price $2.00 a year; Current numbers, 25c a copy. No responsibility is assumed for subscriptions paid to agents and it is best to remit direct to the Publisher.
Issued on the 1st day of each month.

Authors alone are responsible for statements made and opinions expressed in their respective articles.

ROCKS and MINERALS PEEKSKILL, N. Y., U. S. A.

The official Journal of the Rocks and Minerals Association

Chips from the Quarry

CHRISTMAS GIFTS? — BUY MINERALS!

Readers of ROCKS AND MINERALS will have no difficulty in selecting Christmas gifts this year, once they start perusing the advertising pages of this issue. Never before did we have so many advertisements in one issue of the magazine! Minerals, crystals, gems, rough gem material, lapidary equipment, fluorescent apparatus, books, and other mineralogical items are all featured. This year make your Christmas gifts mineralogical, buy early, and buy from dealers who advertise in ROCKS AND MINERALS.

Merry Christmas and a Happy New Year

As the days of 1943 draw to a close and we set aside one of them on which to honor and glorify God, let us say a prayer to our Creator and Friend that He may warm the hearts of all men. Then we shall have peace—an everlasting peace—if the hearts of men are made warm.

May God on high bombard our hearts with His heavenly fire so that hatred may be turned into love, greed and despair into charity and hope.

Peace without God's help is no peace at all as it is neither enduring nor desirable. If we want peace—an everlasting peace—we must petition God for it.

Peter Zodac

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Vol. 18, No. 12

The Official Journal of the ROCKS and MINERALS ASSOCIATION

Whole No. 149

A BUS TRIP TO VIRGINIA

By B. M. BREHM

990 Dana NE., Warren, Ohio

I decided to take my vacation this year in Virginia for the simple reason that I wanted some of the beautiful amethyst found there and maybe too some of the good beryl. A bus was the mode of travel and not to my liking, tho no better way was available. I bought a ticket thru to Lynchbugh, Va., and leaving Warren, O., at 8:00 a.m. Sunday, June 27th, I rode until I could take no more and spent the remainder of the night at Winchester, Va., continuing on to Lynchburg the next day.

Lynchburg, a city of about 45,000 pop., is in the southern part of Virginia (in northwestern Campbell County) and beautifully situated high up on the south bank of the James River. I arrived there around noon and after checking my grip I took a walk thru the town. I stopped at a tiny jewelry store and made my first acquaintance in that part of Virginia.

My new acquaintance, a Mr. Dalton, had picked up a little amethyst somewhere and also someone had brought a few pieces for him to see. He'd check on the man who brought them in and I should stop the next day to learn how he made out.

From there I went into a store to make a purchase and as an afterthought I asked the clerk who waited on me whether or not he knew of anyone who was mineral-minded. He referred me to Dr. J. I. Hamaker, an instructor in the women's college in the city. Dr. Hamaker in turn referred me to Mr. C. C. Brown who is a printer and a collector of minerals and artifacts.

I found Mr. Brown and he was pleased to see me as he intends to try his hand at cutting and didn't quite know how to get started and I had plenty of questions to answer. We got along swell, especially after I showed him the cut stones that I had along with me with the idea of doing some trading on them. He didn't have any gemmy material to trade tho he did have some minerals but of them I stayed clear as they are out of my line—I'm a gemmy material fiend and I try to stick to it.

Mr. Brown told me of some mines up country around Lowesville and Roseland. I immediately headed there and arrived at Piney River and after a little delay met up with a Mr. N. C. Smith, Jr., who got me settled for the night at Roseland. At Roseland there is a large rutile mine. Bobby Payne, son of the folks I was staying with, took me there early next morning. I looked the mine over and found plenty of mineral specimens but I collected only the type that looked to me as if it would polish well. The place is littered with bluish quartz. A green piece of rock resembling a unakite I find will polish fair, tho nothing to brag about. One piece of white rock littered with tiny rutile grains I find shows a slight fluorescence on certain parts. The fluorescence is pure white but seems to be "splashed" on the stone. I left there after visiting the office and showing why I was there, much to the delight of the force.

Roseland is a small hamlet in the southwestern part of Nelson County

(about 3 miles west of U. S. Rt. 29). It is furthermore about 25 miles north of Lynchburg. The rutile mine is about ¼ mile south of Roseland.

In the afternoon Mr. Smith came to picked Bobby and me up and drove us some six or eight miles in the back country where a company 30 or so years ago had mined amethyst. Looking the place over and doing a little prospecting we could find not even the sign of an amethyst. Back at the house of the owner of the property we found some cull and the Mrs. showed me two cut gems of the amethyst that had been mined there. The folks are desirous of some one looking the place over in the hope that more of the beautiful gem material may be found. But the digging is the problem!

The next day we went to Lowesville. Mr. Woodson there had some minerals and several inferior pieces of quartz crystals. Yes; amethyst was found at various places thruout the country-side. But nothing definite could be gotten and the walking too hot so we gave up and hitchhiked to the house and called it a day.

Then back to Lynchburg to see me Mr. Dalton. He had all the dope and he'd drive me to the man. Away we went back the way I had just come tho not quite as far as I had been. There he introduced me to Mr. Worsham who had some fair amethyst crystals. Yes, he'd take me to the hunting grounds. After a day of loafing he backed down as being too far to walk so I left him and again back to Lynchburg.

It was now Saturday and no stones yet! What a disappointment. Transportation being what it is I couldn't get around to all the places that were suggested—I'll do them when the war is over.

The 3:10 p.m. bus from there took me to Rice, Va., my original destination. Why? Well, Mr. E. McElroy of the Monroe Mineral Store, Monroe, N. Y., had some amethyst from there that were tops, and as he was kind enough to tell me where he got them I wanted to get there to see for myself. I arrived in Rice about 5:30 p.m. and for the first time I felt out of place and all alone in strange country.

First thing I did was to inquire about amethyst from the storekeeper there and equally important, a place to eat and sleep. I did in short order get settled with the storekeeper, Mr. Bradshaw.

Sunday I went to see the man who had done all the amethyst digging thereabouts. He, Mr. T. M. Pigg, was very cordial and helpful to the extreme. We looked at his old diggings and on the dump I found plenty of cull and a few small pieces of fair quality. He took me all thru the fields and we picked up amethyst crystals by the dozens but nothing gemmy or spectacular. The best piece was a broken half of a 2" crystal that was clear tho only of little color.

Really, I never before saw so much amethyst on the surface! There MUST be more under the ground. There probably is, but who'll dig them? We did dig about two feet into a small wash in his back yard and did find amethyst crystals but they were no good except as souvenirs to show for our labors.

In others words there will be no amethyst of good quality from that location until someone gets under the surface. None of the folks I could find had any so I had to leave there with only some inferior crystals and not even a single specimen worth cutting.

Rice (a small hamlet in northeastern Prince Edward County) is about 50 miles east of Lynchburg on U. S. Rt. 460.

Well, the stop at Amelia Court House was better, insofar as material was concerned.

Amelia Court House, a small village in the central part of Amelia County, is about 20 miles northeast of Rice on U. S. Rt. 360. Rts. 360 and 460 intersect each other at Burkeville, 7 miles southeast of Rice.

Mr. Morefield runs a large hatchery in Amelia Court House and is well known in the stone groups. His mine* pro-

*See letter from Mr. Morefield in the Sept., 1933, issue of ROCKS AND MINERALS, pp. 143-144, which gives a history of his mine and lists 34 minerals found in it.

duced the best Amazonstone and he's mighty proud of it.

I arrived there when he was out. He came back to find me on hands and knees in his yard where he had dumped some of the waste rock from his mine. I was picking up small pieces of the greenish-blue stone. He liked that evidently, as he got out of his car and began helping me.

We looked and talked and then he showed me his collection of artifacts. He's doing right well for the time he's been at it.

He took me to his mine and we gave the dump a good going over and my sack soon was full. We loaded the car with some he wanted to take back. The mine is not as yet being worked but will be soon he hopes, for its mica content.

He dropped me off at the entrance to the famous old Rutherford mine where the amazonstone was first found. That mine is now in operation. While I was there the men had just finished the new boom and they tried it out while I was looking on. Very interesting, this mining business. The water was well out and cleaning of the pit is now going on. Mica is the main object of the new enterprise. Mr. Tyler, the new owner of the mine, hopes to get a lot of good amazonstone out along with his mica. Whatever else may be found in the mine, neither he nor any one else seems to know as it's been so long since it has been worked that its contents has long since been forgotten.

I then packed up all my accumulated specimens and sent them home and I followed them the same day—I came so fast I beat them by two days.

There wasn't much profit in gem stones on this trip but I did make some good friends and learned a lot.

SOUTHERN CALIFORNIA LOCALITIES

By JACK SCHWARTZ

656 South Hendricks Ave., Los Angeles, Calif.

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14. Searles Lake

Searles Lake is in San Bernardino County. Trona, which is its settlement, is about 40 miles north of Randsburg.

John Wemple Searles discovered Searles Lake borax in about the year 1862. Actual mining operations, however, were begun about 1873.

The American Potash and Chemical Corporation is the present owners, its vast organization turning out enough materials to supply us for the next 100 years.

Through pipelines, brine is pumped, the chemicals are extracted through evaporation. Fertilizers are made of the coarse potash while the finer potash are used in the making of soaps, textiles, medicines, matches, glass, dyes, photo preparations.

Among the minerals listed to occur at Searles Lake are the following: Sulfur, Realgar, Hanksite, Pirssonite, Halite, Trona, Glaserite, Northupite, Tychite, Gay-lussite, Borax, Thenardite, Glauberite, Soda Niter, Aphthitalite, Celestite, Anhydrite, Burkeite, Schairerite, Sulphohalite, Gypsum, and Searlesite.

Pirssonite crystals were once very, very rare. A small specimen commanded a huge sum. Recently many of these crystals were found at Searles Lake and any collector could be the proud owner of these once-rare crystals.

Literature:

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1942. The saga of John Searles. Desert Magazine 5 (12):11-14.

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THE NIPOMO "BEAN FIELDS"

By MRS. JANE HAGAR

Imagine, if you can, thirteen hundred acres of agates, or more! Truly that is the situation at Nipomo, California, better known as "the Bean Fields". For those of you who have never been to the bean fields I can assure you that there is a very great treat in store when you make your first visit to this remarkable location. The photograph accompanying this article shows the general contour of practically all of the picking grounds. Gently rolling up to the hills in the back which, of course, are the source of the agates which we find lower down. It makes one wonder just how deep the agates may be in those fields after centuries of erosion from the hills. And every year a wonderful new crop of agates is found. The crops raised in these fields are mostly beans and peas, some tomatoes, with now and then a season of grain. That means that the ground is worked several times a year and after it is plowed and harrowed there is a brand new bunch of agates.

In the eight times we have been there (including all seasons of the year) we have always had good luck. Like all real rockhounds we feel that a couple of good stones, especially nice ones, will repay us for the trip. But we always found plenty of stones and most of them very good. The variety is almost unlimited. Most famous of course are the Nipomo sagenites but you are apt to find almost anything, lemon-yellow chalcedony, carnelian-banded agate (tho this is mostly badly fractured), some jasper, bone, wood, and a beautiful marcasite with flowerlike markings. We have a large slice of banded (or fortified) white and lavender agate that is as beautiful as anything from Brazil or Uruguay that we have seen. Many water-worn pebbles are also found but very few of those are any good. Then there is a delicate pink chalcedony which is my favorite but this is very scarce and takes a deal of time and patience to find. And let me say right here that it is a good idea to take plenty of time in this location. It cannot be worked fast for best results. In the first place the soil is adobe or gumbo, as some call it, and the agates at most seasons are well covered with dirt and require a lot of "licking". Too bad there are still some folks who gather up a quantity of rocks and then sit down and proceed to hammer them all to pieces and usually smash up more beautiful material than they realize. We always find these small mounds of broken pieces and it is a good idea to look these over carefully as I have some

The Nipomo Bean Fields

very choice cabochons made from small pieces which somebody did not think were worth carrying home.

The directions for reaching these fields are simple. Just travel the Coast Highway to Santa Maria, go right on thru the town and about 6½ miles further you come to Nipomo. You will see a church on the right hand side of the highway right in the middle of the little town, so turn right at the church toward the foothills. You only have to go about a mile and a half till you reach another road which runs the same direction as the highway and you cannot miss it because it is the only road there. Then turn either right or left on this road and you have arrived at the famous "bean fields". Just go along this road in either direction and try any of the fields on both sides of the road, only of course ask permission at any of the houses you come to. They are very friendly folk and will tell you that you are welcome to pick rocks in their fields only keep off the crops. If everybody shows proper consideration for other people's property this should continue to be a rock hounds' paradise for years to come. Just remember to work carefully between the rows of plants.

The best picking I ever had there was after a hard rain and during a drizzle. It rained hard enough to wash off the rocks and then the drizzle kept them wet and made them much easier to see, especially under the gray sky without brilliant sunshine to tire the eyes. The agates loomed up bright as could be and we had a great time except that the walking was something else again, every time you lifted a foot you lifted about twenty pounds of mud on it which did not want to come off and we were mighty tired people when we finished that day but we had some of the most marvellous material I have ever seen. Even in the heat of midsummer it is delightful "picking" there for there is always a nice breeze from the ocean which can be seen from most any rise of ground. The lure of rocks and the out-of-doors has me in its spell again but the rocks will still be there after the war, and so if I must wait I can do so hoping that the next time I get there I'll uncover that extra special one that I have made up my mind is there waiting for me to find.

MOTION PICTURE ON STAINLESS STEEL

A new Bureau of Mines educational motion picture entitled "Stainless Steel", telling graphically the production story of a corrosion-resistant metal that combats costly rust, has just been released for free public distribution, Dr. R. R. Sayers, Director of the Bureau of Mines, announced recently.

Produced in cooperation with a steel manufacturing concern, the sound film is of 16 millimeter size and has a 29-minute running time. It depicts clearly each step in the intricate production process of stainless steel, a product familiar in America's modern kitchens, stream-lined trains, and elsewhere, but one now diverted to war uses.

In a simple experiment which becomes the theme of the picture, stains from food and corrosion from other sources are shown to be resisted by a sheet of stainless steel, in contrast to ordinary steel.

The film shows workmen charging an electric furnace with high-grade steel, alloy scrap, and commercial pig iron, adding chromium and nickel in carefully measured amounts to produce the different grades and types of stainless steel, and introducing slagging materials when the mixture reaches the molten state.

Produced to interest, entertain, and instruct the average man, the film is equally suitable for use by industrial and civil defense training classes, training classes conducted by the armed forces, and for schools, colleges, churches, civic and business organiations, and similar groups, Dr. Sayers said.

Applications for free short-term loans of "Stainless Steel", should be addressed to the *Graphic Services Section, Bureau of Mines, 4800 Forbes Street, Pittsburgh 13, Pa.*, and should state specifically that the borrower has a sound projector for 16 millimeter film. Although no charge is made for use of the film, the exhibitor is expected to pay transportation charges both ways and for loss or damage other than normal wear.

A MEXICAN OPAL MINE

By PAUL EDWARD KILLINGER

120 West Winspear Avenue, Buffalo, N. Y.

The Mexican state of Queretaro is world known for its beautiful water-white opals as well as for its yellow and red varieties which are native to that country. The hub of this district is the state capitol, also named Queretaro.

Queretaro is a typical Mexican town with its charm somewhat enhanced by its resemblance to the widely known town in the south named Taxco. As usual it has a sufficient number of churches and one or possibly two paved streets.

The closest mine is about 30 kilometers (about 19 miles) from the town. We took the road to Guanajuato for about 15 kilometers and then there was a fork the turn to the left being the correct one. The road then gradually ascends until at about a distance of 15 kilometers from the turn off, large piles of rock are seen on the hillside to the right and about 200 yards from the road.

There are two open pits comprising this mine, the larger of the two being more productive of specimens.

We arrived there on a beautiful sunlit morning when all the surrounding mountains seemed at their best. A short walk from the road and we discovered the smaller pit behind a pile of rock. This rock was of a peculiar red color throughout probably due to the fact that it contained iron in composition, when in the molten state.

This smaller pit yielded a few good specimens, mostly small in size.

I then climbed over a hill of worked over rock and came upon the real mine, an open pit about 150 feet long, 100 feet wide, and 50 to 70 feet deep. After finding a method of descending the pit's precipitous walls, I came upon the collectors' happy-hunting-ground. This location had evidently been visited by few collectors because many very fine specimens were lying all over the floor of this quarry-mine.

The pieces ranged in size from an eighth of an inch to the larger specimens of eight or ten inches, bearing smatterings of opal throughout them.

The red and yellow opal, which only rarely show any fire, is usually found in an elongated mass, be it large or small, with a look as if it were strained through its matrix. There is usually a comparatively large central mass with the strained effect surrounding this.

A second variety is banded, sinterous and might be thought to have been associated with mineral springs or a geyser basin. This type was always found in some sort of cavity within the rock.

A third type is the white or water white gem opal. This is almost always found in the form of a small egg or nodule also within the rock. Some specimens were noted as having fine, hair-like, iron ore red xls enclosed. These are, as I think my fellow mineralogists will agree, rutile crystals.

The last type of occurrence were encrustations of hyalite within many of the cavities. Some of this showed a pecular formation which might be judged to be crystals.

The general plane of cleavage of the quarry runs at about an 80° angle with the horizontal, therefore making one side of it a slope and the other an overhang.

I picked up several nodules of chalcedony, both white and iron stained, and drew the conclusion from their type of formation that geodes of the same might be found, after some search, in the region.

Drusy quartz and delicately colored amethyst also seems to be not uncommon in the region as much of this variety of silicon was offered for sale, to me, by several people in Queretaro. They said that these specimens had come from the mountains to the north of Queretaro.

Calcite also might be found in quite good crystals, as one of the drusy quartz specimens offered to me was partly encrusted by small, sparkling crystals, and there was one larger scalenohedron at-

tached to the mass.

(Now a few notes). The date of my visit was August 1st, 1943, and it is of interest that this particular mine had shut down just one year before. A "libre", or Mexican taxi, cost 30 pesos or about $6.20 for a five hour trip. The drivers know the locations of the mines but will usually say that the road is in bad condition, and therefore want more for the trip out. A little pointed discussion will usually clear up the situation, however.

Taken as a whole Queretaro is entirely worth the mineralogist's time and money. The town is very interesting, there are several good hotels, it is somewhat cheaper than the capitol, Mexico City, and the mineral localities are quite untouched as far as the "rock hounds" go.

GROTTOES OF HAN-SUR-LESSE, BELGIUM

By ERNEST CASSELLS

Peekskill, N. Y.

During World War No. 1, I was a member of the Mallet Reserve, a famous motor transport outfit composed of French and American soldiers. The Mallet Reserve was so called because of the name of its commanding officer, Major Mallet.

After all hostilities ceased, many of us Americans, who were still in Europe, went on various trips to spots of interest. I remember one interesting trip that a party of us made to the famous Grottoes of Han-sur-Lesse, in southeastern Belgium. We went in two army trucks.

Our trip started from Le Chesne, a small town in northern France, at 9:00 a.m. on Tuesday, April 15, 1919. We headed northeast. We went by way of Charleville, Rocroi, Fumay, then along the Meuse River to Givet (all in France). The run from Le Chesne to Givet was made in four hours—beautiful scenery all the way. We stopped in Givet for lunch. We left Givet about 1:30 p.m., going east—crossed the Belgian border and arrived at Beauraing, Belgium, about 2:30 p.m. where we spent the rest of the day, stopping at Hotel du Luxembourg for the night.

The next day, Wed., April 16th, we left Beauraing about 9:00 a.m. and arrived at Han-sur-Lesse about noon. After lunch we hunted up a guide and with him went through the Grottoes.

The village of Han-sur-Lesse lies on the north side of a range of limestone hills in eastern Namur Province through which the Lesse River forces its way by the so-called *Trou de Han* or *de Belvaux*. The entrance to the *Trou de Han* lies about 1½ miles southeast from Han on the south side of the above mentioned range of hills.

The *Trou de Han* is nearly one mile in length and consists of a series of caves opened into each other and varying in height. The numerous stalactite formations in these caves have been fancifully named in accordance with their forms: *Trone de Pluton, Boudoir de Proserpine, Galerie de la Grenouille,* etc. The most imposing chambers are the *Salle du Dome* which is 500 ft. long, 450 ft. wide, and 180 ft. high, and the *Merveilleuses,* four chambers with the most beautiful stalactites.

We walked through the entrance and a good part of the cavern—but had to get in a boat (on the Lesse River which flows through the caves) to reach the exit. At one spot in the cavern, in the *Salle du Dome* chamber (the largest room), the guide climbed up to a high point, poured some gasoline on the rocks, lit it . . . and we saw a most wonderful sight. It took us about two hours to make the trip through the caves.

About ½ mile further on (from the exit of the cavern) is the *Perte de la Lesse,* where the Lesse River dashes into a subterranean abyss. This was worthy of a trip, so our guide informed us, but we did not have the time to make it.

HOW THE HOBBY GREW!

By MRS. BERNICE B. WADSWORTH
8 School Street, Bryantville, Mass.

I wonder why more folks don't make the collection of rocks and minerals their Hobby. It's fun, fascinating, educational and could be lucrative. My Hobby of collecting rocks and minerals started when I was about 13 years old, when I found a tiny petrified box turtle about one inch in diameter, in an open field next to my home; as well as several perfect specimens of Indian arrow-heads in the same location, which is about seven miles from the site of the old fort and Plymouth Rock, the landing place of the Pilgrims in Plymouth, Mass. Incidentally I have in my collection a small piece of brick from this old fort, built in 1620, which is very fine in texture and orange in color, and also a piece of the famous Plymouth Rock which was broken in two many years ago as it fell while being moved to a location in front of Pilgrim Hall, and several small pieces of the rock chipped off. Of course Hobbies weren't thought much about at that time but I was always a nature lover and especially loved to find some oddly shaped or interesting rock.

Then at about that same time a friend of my mother's took a quite extensive trip through Europe and all throughout her travels when she visited some especially interesting or historic place she would pick up a small stone from that identical spot and carefully label each item. A few years after her return home these specimens also came into my possession as she knew I was interested in rocks, and although few of them are of any great beauty, they are most interesting historically. And summers while at the old family homestead in Turner, Maine, I was always picking up pieces of mica, tourmaline, beryl, and others of the minerals common to that locality. Then "Hobbies" came into existance and I began mounting and labeling my specimens, but I did not exhibit them and only a few of my closest friends knew I had a collection until a few years ago a teacher in the Pembroke High School happened to call at my home, and became extremely interested in my specimens, especially in the little turtle and the arrow-heads. I was then trying to get some sort of specimen from each State in the United States and to date I have succeeded in acquiring all but the state of Louisiana, which of course I hope to get in time.

At the present time I have 1,800 pieces of minerals, rocks, fossils, corals and varieties of sand. Of course there are many duplicates and many are quite small in size but all are interesting and it has been such fun to collect them. Many of my friends, when going to some distant state, would bring or send me a specimen from that particular place. And besides the beauty and originality I have learned so much about this particular part of the earth's formation it has been an education in itself and I wonder that more people don't become interested in learning about these most beautiful and strategic natural resources. Within the past two or three years I have exhibited some of my choicest and most beautifully colored specimens at various Hobby shows in this and nearby towns and at each and every place my exhibit has attracted more attention than any other. So far as I know I am the only person hereabout who has made this a Hobby and although I have no minerals of great value, I do have many unique specimens and I love them, some for their real beauty, some for their uniqueness, and many for their pleasant personal associations. Of course as the old saying goes "all is not gold that glitters", and in many instances the dullest colored specimens are really the most valuable, but it certainly is lots of fun to see the eyes of friends sparkle with delight as they literally pounce on a specimen of pyrite, wulfenite, or some of the beautiful quartz crystals, and exclaim in admiration and enthusiasm. My special "State" collection I have arranged in a large flat cardboard carton which is marked off in-

to the 48 sections, each section containing the mounted rock or mineral, with information as to variety and location printed just above it. I have received several invitations to show my minerals in a number of towns and although I have not always been able to do this, wherever I have done so they have always been received with the greatest enthusiasm.

AN ABORIGINES FLINT QUARRY

By ROBERT H. MITCHELL

Muskingum College

Long before white men came to America the Aborigines used flint for arrow heads, scrapers, knives, skinners, hoes and drills. This mineral was particularly adapted for such purposes because of its hardness and fracture which made it easy to chip it into flakes having sharp cutting edges.

Although flint is a rather common mineral and good deposits are found widely scattered over the earth such deposits are of small areal extent and rather local in occurrence. One such deposit is the flint beds of the Ferriferous or Vanport limestone along Flint Ridge in Licking and Muskingum Counties, Ohio, which were extensively used by the Aborigines. Hundreds of quarry pits made by these people as well as heaps of discarded flint chips may still be seen along Flint Ridge and its spurs. Many of the flint tools found in burial mounds as well as worked flint found on the surface in Ohio and adjacent states can be traced to these deposits at Flint Ridge.

The Ferriferous or Vanport limestone in western Muskingum County is variable in its character. In most of the county the upper bed is rather pure flint or limestone. The flint phase is best developed along Flint Ridge. Northward from Flint Ridge the Vanport is represented by thin local beds of flint or by flint in limestone or by limestone only.

The flint and limestone of this upper bed contains abundant remains of a Protozoan—Fusulina (wheat grain fossil). Brachiopods, Pelecypods and Gastropods are also found more especially in the limestone than in the flint, however. It is largely on the basis of these fossil Protozoans that we can trace the flint tools and worked fragments found throughout most of the Ohio valley to the flint deposits of Flint Ridge.

The flint varies in different places. It is mainly gray flint, jasper, and in some cases chalcedony. The color varies from white, red, brown, yellow, black and some of it is translucent. Drusy cavities containing small, singly terminated quartz crystals, sometimes iron stained, occur in some places.

The fossil content of the Vanport limestone suggests that it was deposited in a shallow sea. It is quite possible that the flint which replaces this limestone in the Flint Ridge area had a similar origin and is an original deposit rather than a replacement product as is the case in some flint beds.

The State Geologist of Ohio states, "So far these deposits of Ferriferous limestone or flint have contributed but little to the welfare and wants of the people now living in Muskingum County, although the materials have a value for several purposes."

Because of its durability it could be used for road building material but the sharpness of the fragments and the low cementing value of the fine material makes it best suited to road foundations. Chemical analysis indicates that the light colored flint could be used in the manufacture of silica brick or potters flint.

Locally the flint has been used for building material mostly for ornamental purposes in porches and mantles. Its chief value to the collector lies in the fact that it represents one of the earliest used raw materials for manufacturing in this country since the manufacture of flint tools and weapons was probably the first manufacturing industry.

TO GET MORE ENJOYMENT FROM YOUR MINERALS

By A. C. HAWKINS

Now is the chance of a lifetime to look over the mineralogical treasures assembled in the past, and to prepare for greater collecting days in the future. New specimens are not so easily obtainable nowadays except by purchase, or thru the excellent medium of exchange. Should we not, then, try to discover what may profitably be done with the collection which we already have; both the fine cabinet material, and the odds and ends of seemingly less attractive pieces?

Every mineral lover should have at least one attractive display case, assembled for the delight of visitors as well as for his or her personal inspiration. The case does not need to be very large; but it should be well lighted, preferably with inside-frosted daylight lamps, well shielded by small metal shades, so that all of the illumination goes where it will do the most good. Assemble in this some of your most attractive specimens. Space them well apart, to avoid all appearance of crowding. Arrange them against backgrounds of suitable colors—white, black, or tan—to bring out contrast. Also increase this by placing them so that their various colors and lusters enhance each other. Make a harmonious display. Turn them around until their most symmetrical outlines and brightest crystals show to the best advantage.

Another small case, or a section of the larger one, may readily be prepared for a fluorescent display by lining it completely with unglazed black paper. The ordinary small argon lamps may then be mounted in the top of this with metal shades around them to throw their light downward. Specimens of such minerals as fluorite, autunite, fluorescent hyalite and common opal, wernerite, and willemite, with mineral oils and uranium glass (if you so desire), if mounted so as to be close up under the lamps, will make a very pretty display against the dark background.

There is a resident of Long Island, New York (and he is not a mineral collector) who has set into the front of his stone fireplace, just below the mantel, a row of thin translucent slabs of several colored minerals. Behind these, a row of electric bulbs slides in a channel in the stonework, so that their light shines thru. The resulting effect is most unusual. Simpler adaptations of the idea may be extended to the creation of pretty things out of the odds-and-ends of minerals which you have. Around a very small electric lamp, small translucent pieces of minerals like calcite, fluorite, talc, and pink marble may be built up with the aid of Duco cement, giving a combination of pretty color effects in a night-lamp affording just about the desired degree of subdued illumination. A Christmas tree built up of folia of translucent green talc, with this interior lighting, is very effective. And while you have often let the ultra-violet light shine on the surface of minerals, you probably never thot of surrounding one or more argon lamps with a built-up layer of English fluorite. The resulting effect will win the admiration of all observers, whether mineralogically, or otherwise, inclined.

Handsome lamp shades have been constructed from mica plates of various kinds. Perhaps the most attractive are of muscovite containing the flat red spessartite garnets from North Carolina. Mica containing thin, flat crystals of other minerals, dark dendritic inclusions, phantom growth lines, or "A" structure, might serve very well. Some muscovite plates have biotite centers looking like the ace of diamonds; others have borders of purple or yellow lepidolite. Any or all of these might be used experimentally. Cleaving of thin plates of the mica will often give duplicates for the various sides of the shade.

Somebody certainly should go about compiling more data regarding The Mimicry of Minerals, supplementing an excellent short paper of that title written by Mr. H. P. Whitlock of the American Museum of Natural History in New York, and published by him in

Natural History, vol. 25, pp. 156-161, 1925. Everybody seems to be interested in how certain mineral forms resemble other natural objects. Such resemblances have been extensively commercialized in all of our famous caves. In fact, a committee of the National Speleological Society (scientific cave explorers) is even now preparing to undertake a thoro study and description of cave minerals and formations. A small group of such objects would make an interesting item in any mineral collection; particularly such things as the little concretions from the clay strata, which often look like men or animals, and sometimes even have the most ludicrous expressions.

Hang up the natural magnet in the case and let it support all the powdered magnetite, or the longest string of small nails, that it will hold. Fix the flexible sandstone so that people can wiggle it without breaking it; i.e., let it lie flat so that it can be raised in the middle, or vertically, so that it can be moved sidewise but not too far. There is always somebody who asks, Will it break? and suits the action to the words before you can prevent it.

Do not forget that the study of small crystals under a good hand lens, or of the more elaborate box-mounts under low microscopic magnification, is one of the greatest of mineralogical delights. It is not necessary to destroy larger specimens to which they are attached, in order to examine them.

Clean up all dirty specimens with soap and warm water, avoiding the washing of gypsum, stilbite and similar minerals which, on account of ready solubility, will be likely to lose some of their luster. Iron rust stains or coatings may be removed from ordinary minerals with a weak solution of oxalic acid. Delicate crystallizations of acicular minerals, such as natrolite, may be blown more or less clean with an air blast which is not too powerful. It is by far better, however, to enclose such specimens in glass covered boxes as soon as they are brought in from the field, so that dirt is kept from accumulating on them. If so treated, they will remain permanently clean and bright.

TWO MORE STAFF MEMBERS OF FIELD MUSEUM JOIN ARMED SERVICE

The 36th and 37th stars were placed in the service flag of Field Museum of Natural History recently, following the departure for the navy of Loren P. Woods, assistant curator of fishes, and the induction into the army of Bryan Patterson, curator of paleontology. Mr. Woods has received a commission as ensign. He has been a member of the museum staff since 1938, is a graduate of Earlham College, Richmond, Ind., and engaged in post-graduate studies at Northwestern University. Patterson joined the museum staff in 1926, has conducted many fossil hunting expeditions, and is the author of a number of scientific publications.

Watch for Them!

A number of very interesting articles are scheduled for an early appearance in *Rocks and Minerals.* Among them are: "Carl Anderson and his Lapis Lazuli Mine in Colorado", by Otis Dozier; "Magnet Cove and Lodestone," by H. E. Wheeler; "Michigan's Copper Country," by J. E. Andress; "Gems in Devon and Cornwall, England," by T. Orchard Lisle; "A Half-Mile Mistake," by H. W. Slocum, also two very good articles on gem cutting—one on the "Cansaw," by Wm. C. Chandler and the other "Cutting gems by hand," by C. C. Curtis and J. H. Howard. Watch for them!

WHAT'S IN A NAME

By EDWARD J. MARCIN

As a collector I am fairly well acquainted with the scientific names of minerals, and in my visits to quarries, mines, stone fences, and the other usual haunts where gentry of our particular interests may be found, I have often talked with many "oldest residents", miners, (current and ex-), quarry workers, etc. It has always surprised me to hear the strange names these people gave to many of our common and some of our rarer minerals. (That is, discounting mispronunciations). After a search I was able to compile the following list of scientific names and their corresponding common or mining terms.

It will be noticed that while the name "glance" refers to luster, it includes mainly the sulphides, which very likely is just a coincidence. "Spar" usually alludes to a non-metallic cleavable mineral. "Blende" also refers to lustre and "Bloom" usually signifies an encrustation or alteration.

Some names seem to bear no relation to either physical or chemical properties, but a bit of research into the past would probably disclose a logical explanation for them.

After reading the list may I be pardoned for remarking that it isn't every hobbyist who is able to come home with an "Apatite" and satisfying it with "Asparagus-(stone)".

Arsenopyrite—Mispickel
Aikinite—Needle ore
Amphibole—Hornblende
Andalusite—Macle
Apatite—Asparagus stone
Annabergite—Nickel ore, Nickel Green, Nickel Bloom
Azurite—Chessy copper
Argentite—Vitreous silver, Silver Galnce
Alabandite—Manganese Glance, Manganese Blende
Alunite—Alumstone

Barite—Heavy Spar, Barytes
Bieberite—Red Vitriol, Cobalt Vitriol
Bournonite—Cog-wheel ore, Wheel ore
Bismuthinite—Bismuth Glance

Cobaltite—Cobalt Glance
Covellite—Indigo Copper, Blue Copper
Calomel—Horn Mercury
Cerargyrite—Horn Silver
Cuprite—Tile ore, Liver ore
Cassiterite—Tin stone, Steam Tin, Wood Tin
Crocidolite—Blue Asbestos
Copiapite—Misy
Chrysocolla—Mountain Blue
Carminite—Carmine Spar
Chalcanthite—Blue Vitriol, Blue stone
Cyanotrichite—Velvet Copper ore
Calcite—Calc Spar, Limestone
Cerrusite—White Lead ore
Cinnabar—Natural Vermilion, Mercury Blende
Cryolite—Ice stone
Chalcocite—Copper Glance, Vitreous Copper

Diamond—Bort, Carbonado
Dufrenite—Green Iron ore
Dolomite—Pearl Spar

Erythrite—Cobalt Bloom, Cobalt Ochre, Red Cobalt

Ferrimolybdite—Molybdic Ocher
Fluorite—Blue-John

Garnet—Carbuncle
Glauconite—Green Earth. Green-sand
Graphite—Black Lead, Plumbago
Galena—Galenite, Lead Glance
Greenockite—Cadmium Blende

Hydrozincite—Zinc Bloom
Hypersthene—Labrador Hornblende

Jamesonite—Feather ore

Kermesite—Antimony Blende

Lazulite—Blue Spar
Leucite—White Garnet
Limonite—Brown or Yellow Ochre, Bog ore

Massicot—Lead Ochre
Muscovite—Isinglass, Mica
Marcasite—Cockscomb, Spear Pyrites, Cellular Pyrites
Mercury—Quicksilver
Millerite—Capillary Pyrites
Mirabilite—Glauber Salt
Minium—Red Lead
Melanterite—Copperas
Malachite—Mountain Green, Green Copper
Magnetite—Lodestone

Niccolite—Copper Nickel

Orpiment—Auripigment

Pyrostilpnite—Fire Blende

Pyromorphite—Green Lead ore, Brown Lead ore
Psilomelane—Black Hematite
Proustite—Ruby Silver, Light Red Silver ore
Pyrrhotite—Magnetic Pyrites
Pyrite—Fool's Gold
Pyrargyrite—Dark Red Silver ore, Dark Red Silver

Quartz—Silex, Flint

Rhodonite—Red Manganese
Rutile—Red Schorl
Rhodochrosite—Rose Spar

Staurolite—Fairy stone
Stephanite—Brittle Silver ore, Silver Glance, Black Silver
Sulphur—Brimstone
Strontianite—Strontian Spar
Stibnite—Antimony Glance
Sphalerite—Blende, Black Jack, Rosin Jack, Mock Lead, False Galena
Stannite—Bell Metal ore
Smithsonite—Dry Bone

Tetradymite—Telluric Bismuth
Tenorite—Black Copper

Uraninite—Pitchblende

Wollastonite—Tabular Spar
Wulfenite-Yellow Lead ore, Yellow Lead Spar

Zaratite—Emerald Nickel
Zincite—Red Zinc ore

QUARTZ CRYSTALS IN MIFFLIN COUNTY, PENNA.

By F. ALBERT UHRMANN

Sharon Hill, Penna.

Reedsville on the Wm. Penn Highway (Route 322), six miles north of Lewistown, Penna., has been my "happy hunting ground" for quartz crystals for seven years. While visiting friends there in 1936 we first found quartz (limpid, milky, smoky) in a plowed field atop one of the hills. In a few hours we had picked up enough specimens to fill a 5 lb. salt bag. But since that time the hunting has not been so good as the field has not been plowed. Crystals can also be found in the washouts on the sides of the hill. This site is on the east side of the highway at the Tea Creek bridge. Quartz crystals also have been found in washouts in the cow pasture bordering the road (Route 972) to the Alexander Caverns, one of the many limestone caves in this area.

Gordon (1) does not mention quartz being found in Mifflin County, but lists the following from near Mt. Union: fluorite, calcite, ferrocalcite, aragonite and strontianite.

Due to frost, etc., many of the quartz crystals found are broken. However, taking this into consideration, some very nice specimens have been found, the largest crystals measuring approximately 1" across and 2½" long. These larger specimens are parallel growths.

Most of the crystals are doubly terminated, those found with a single termination or in matrix being definitely in the minority. The matrix in all cases is a gray limestone with a coating of massive or crystallized calcite, the quartz crystals being imbedded in the calcite.

Some specimens have been so heavily etched that the crystal faces are hardly discernible. Other crystals have been fractured and cemented together slightly out of line.

The writer has yet to find in this locality a complete crystal transparent in its entirety, as most of the specimens range from those having clear sections to those which are opaque.

Several have inclusions of clay, iron, etc. either confined to one spot or distributed along the area of a fracture.

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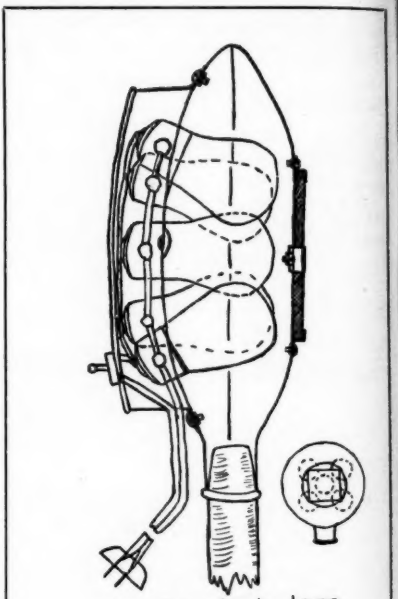
(1) Gordon, Samuel G., *The Mineralogy of Pennsylvania*, Special Publication No. 1, the Academy of Natural Sciences of Philadelphia, 1922. Page 211.

A PORTABLE ARGON CLUSTER LAMP

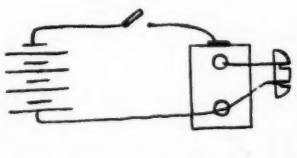
By W. J. SANDO

Ever since I became a mineral collector I have had a fascination for fluorescent specimens, and with this interest developed a desire for a cheap, portable, ultra-violet lamp of sufficiently high intensity. As the argon bulb is a very cheap source of ultra-violet radiations, some investigation was made with this type of lamp. I already had a battery of argon bulbs in a wooden box, but the visible light given off masked the reaction of many specimens and, as the box was without a reflector, the intensity was low. To overcome these difficulties a suitable outfit finally was designed.

A Boy Scout aluminum canteen of the oval "Wearever" type is utilized (one usually may be purchased at a store selling Official Boy Scout equipment for about $1.95). A square approximately 3" by 3" is cut out of the slight indentation on the side of the canteen which rests against the hip in original use to accommodate a 3⅛" square filter glass (No. 5970, Corning Glass Co.—$.85). The inside of the canteen is polished with steel wool to insure maximum reflection. Then a cluster of 5 holes, each approximately 1¼" in diameter, is made in the side of the canteen opposite the filter window to serve as receptacles for 5 argon bulbs. The bulbs are taped to insure a snug fit, inserted in the holes, closely clustered in the center of the canteen with the lamp shells left projecting out of the back, and wired in parallel. The whole wiring system on the back of the canteen is then covered with the bottom of a large tin can fastened to the canteen with ⅛" stove bolts. The lead-out wires are connected to a small radio toggle switch which is attached to the back of the can. Three metal clips are bolted into place around the filter window to hold the filter glass in place. The screw top of the canteen is removed and a wooden dowel 1" in diameter, tapered slightly on one end, is forced into the mouth of the canteen for a handle. The handle and tin can-covering may or may not be painted, as desired.



The Argon Cluster Lamp



Wiring Diagram for Portable Source of Electricity

The lamp may be made portable for field use by constructing a box containing several dry cells and a Model T Ford spark coil* with an outlet to receive the plug from the lamp. The wiring diagram for such a set-up is illustrated.

The best fluorescence is obtained with minerals which react in the neighborhood of 3650 A.U., Wernerite, autunite, hyalite, copalite, virgin valley semi-opal, and the Franklin, N. J., minerals are among specimens that have been tested with this lamp and found to react beautifully under its radiations. There are

many fluorescent minerals, however, that this collector has not examined yet which may exceed the beauty of the specimens previously mentioned to further prove the efficiency of the lamp.

The compactibility, portability, and efficiency of this inexpensive lamp will, I'm sure, make it desirable for the average collector's use.

*Spark coil and batteries suggested by W. D. Quinn in ROCKS AND MINERALS, Vol. 13, No. 2, February, 1938.

SAPPHIRES BY THE BUCKETFUL

Industrial sapphires are being mined near Helena, Montana, by a large floating dredge in 40 ft. of water. They are six-sided crystals found with hematite and limonite pebbles, together with some rubies. After sorting, the best gems are screened into eight sizes ranging from 2½ to 8 mesh. Then they are packed into 100-ounce bags and shipped to the Defense Supply Corporation and to gem cutters working on Government allocation. Flying fortresses need about 300 of these sapphires on their control panels, while the largest size naval ships require nearly 3,000 per ship.

The story of the sapphire mining operations by the Perry-Schroeder Mining Company at the famous Eldorado Bar in Hauser Lake, a few miles northeast of Helena, Montana, is told and illustrated with six pictures in the October issue of *Mining World*. The work is being done by nearly 30 men and women under the direction of John Schroeder and Owens H. Perry, using a Yuba dredge fitted with 90 buckets of 6 cu. ft. capacity. Near Philipsburg, about 60 miles southeast of Helena, more sapphires are recovered by hydraulic mining, and these are the only two industrial sapphire mining operations on a commercial scale in the United States.[1]

Gold is also obtained during the dredging operations, and is really the main work. Recovery of both gold and the gems is effected primarily by 16 placer-type jigs working on the dredged material passing the trommel. The jig overflow passes to double-level expanded tail sluices over corduroy cloth, and then to the tail sluices with rubber riffles. The design of the jigs causes the mixed pebbling to pile up and work to the sides of the jigs; the sapphire concentrate is at the bottom and is carried under the lower end of a cup. Then the material piles up under the cup and works out through a port into launders, whence the stones discharge into metal hampers. An average of about 1½ tons of concentrate, as it is named, is obtained each day. The sapphires, it is interesting to note, occur in a direct ratio to the quantity of gold found.

After the concentrate is cleaned it is sent to the sorting room at the main camp, where it is hand sorted in two stages. First the sapphires are removed from the iron-bearing pebbles, and then three women operating bean sorting machines segregate the gems, working under 40 watt fluorescent lighting. Some garnet is found but discarded together with all imperfect stones. The final sorting is done at the Helena office, and is carried out on a flat topped table fitted with a small piece of ground glass, and the light above and below reveals all flaws. Incidently, all the sapphires found have a distinguishing triangular raise on one end. The rubies are of the same composition as the sapphires, the name indicating the color and not the composition.

1 Commercial sapphires must not be confused with gem sapphires. The most famous gem sapphire mining occurrence in the United States is also in Montana, in Yogo Gulch in Fergus County, in the central part of the state.

Buy More War Bonds and Stamps

With Our Dealers

Gem cutters attention! Ward's Natural Science Est., Inc., of Rochester, N. Y., are offering a 5 lb. package of green Virginia amazonstone of cuttable quality at a very low rate. We saw their ad in ROCKS AND MINERALS!

E. Mitchell Gunnell, of Denver, Colo., offers collectors, in this issue, a Christmas galaxy of beautiful minerals. Don't look up the word "galaxy", look up his ad instead.

B. Lowe, of St. Louis, Mo., who specializes in gems, has some attractive offers for our readers this month. Are you interested in attractive offers?

Smith's Agate Shop, of Portland, Ore., are featuring diamond saws in their advertisement. They not only offer various sized saws at low prices but will recharged used blades. Of course their ad is of special interest to those who cut and polish rocks and minerals. Get a saw and do your own sawing!

The finest gemmy peridots are found on the little-known, uninhabited island of St. John, in the Red Sea—that long narrow body of water which separates Africa from Asia. Gem peridot crystals are rare—we all know that—but do you know that Schortmann's Minerals, of Easthampton, Mass., have just received a nice supply of them? Here is an exclusive tip—look up their ad!

Harry Ross, of New York City, whose specialty is scientific and laboratory apparatus, has two attractive mineral sets which should appeal to students and beginners. A good way to begin is to look up this ad.

The stock of the four very beautiful minerals, featured by Wiener Mineral Co., of Tucson, Ariz., in their ad this month, is bound to be exhausted quickly, once collectors start sending in their orders for them. We hope that this stock is large enough to last at least two weeks!

Jno. B. Litsey, of Dallas, Texas, is again featuring the unique Eagle Ford fluorescent calcites from Texas. By all means order a suite of these specimens for your fluorescence collection.

N. A. Sansteby, of San Gabriel, Calif., is offering his lapidary services to collectors. If you want minerals or gems to be cut and polished, Mr. Sansteby can do this work for you.

Cinnabar specimens are always of interest and especially so when they occur in small rounded nuggets. But collectors are very seldom offered such nuggets. ROCKS AND MINERALS readers will have the rare opportunity of acquiring some of these nuggets as Frank H. Waskey, of Aleknagik, Alaska, has a nice supply of them. Please remember, however, that it takes some time for your specimens to arrive from Alaska and when sending money orders have them made payable at the Dillingham, Alaska, post office (there is no money order branch at Aleknagik).

John A. Grenzig, of Brooklyn, N. Y., reports another large shipment of Arkansas rock crystals came in during November and that many other choice western material has also been received. His store is always a popular rendezvous for collectors. The next time you are in the city, drop in to see him.

One of the West's most famous lapidary manufacturing companies makes its first appearance in Rocks and Minerals this month. Our best wishes are extended to the Vreeland Lapidary Mfg. Co., of Portland, Ore. (makers of the famous Vreco equipment) and we hope our readers will patronize regularly this popular firm.

The Colorado Gem Co., of Bayfield, Colo., extend Christmas and New Year greetings to Rockhounds everywhere. Are you a Rockhound? You will be if you read all the ads in this issue of ROCKS AND MINERALS and then get on the trail of some dealers with a few nice orders!

Another new dealer advertising for the first time in ROCKS AND MINERALS is Allan Branham, of Lander, Wyo., whose specialty is the hunting of semi-precious gem material, particularly jade. Wyoming jade has been widely distributed in America and it is Mr. Branham who is given the credit for this. We are sure his many offers in this issue will also have a wide distribution among our readers.

Wilfred C. Eyles, formerly of Hayward, Calif., is now established in his new quarters at Bayfield, Colo. Our best wishes are extended to him.

Some new finds of semi-precious gem material is offered to amateur cutters this month by the Western Mineral Exchange, of Seattle, Wash. They also feature some new fluorescent minerals, too. Better look their ad up if you are interested in "Something New".

Somebody has spread the word that there will be much gem cutting and polishing done this winter and many dealers are cooperating with collectors by advertising suitable equipment. Among these firms are Warner & Grieger, of Pasadena, Calif., whose many offers in this issue will catch the eye of even a mildly interested "cutter".

Another new dealer to appear for the first time in ROCKS AND MINERALS is Lee Filer, of Central Valley, N. Y. Mr. Filer, who plans to specialize in Orange County minerals, has access to many localities which have made the county famous and his further offerings will be awaited with keen eagerness by all collectors.

Club and Society Notes

Queens Mineral Society

At the September meeting the Society began two separate long range projects which are designed as part of our Educational Program. One project is a course in Crystallography which is to be given every other meeting for a half-hour period after the business session is finished and before the guest speaker of the evening is introduced. This course is to be quite detailed and inclusive and is expected to take several years to complete. Mr. Curt Segeler is ably conducting this course.

The other project is a more or less complete perusal of Dana's *System of Mineralogy*, starting with the native elements and working through the book. A few minerals are studied during each session of this project and members bring in not only prized specimens but ordinary massive pieces as well so that all may become familiarized with the appearance and some of the characteristics of most of the mineral species. This project will occupy the half-hour between business and our guest speaker on the alternate meetings when the Crystallography course is not given. Mr. E. J. Marcin has charge of this project.

At the October meeting it was decided to meet at the home of Mr. and Mrs. John A. Grenzig during the cold months of December-March. We are also adding to our scrap book field trip pictures taken of and by members showing various mineral localities. Dr. Otto Trautz and Mr. John Vanderbrinck were elected to membership. Mr. Segeler gave the second lesson in Crystallography. After a short "seven inning stretch," Mr. Vanderbrinck, of Prospect Park, N. J., was introduced and he spoke on the "Needle Zeolites" —Natrolite, Scolecite, and Mesolite, explaining how they may be distinguished from each other and from Pectolite.

Bernadette Marcin, Sec'y.

Rochester Academy of Science (Mineralogical Section)

At the regular meeting on Thurs., Oct. 14th, 1943, a motion was made and unanimously carried for the Section to become affiliated with the Rocks and Minerals Association. The Section deeply appreciates the splendid opportunity that has been made available to them.

David E. Jensen, Recorder.

Rocky Mountain Federation

Due to war conditions it was impossible to hold a convention this year of the Rocky Mountain Federation of Mineral Societies, and as officers are elected at these conventions for the ensuing year, to serve for one year only, the Federation would be without officers for the coming year.

Accordingly I took it upon myself to formulate and send a letter in the form of a ballot to each of the fourteen member societies in the Federation asking them if they had any objections to suspending the rule in the constitution which prohibited an officer from succeeding himself and re-elect Pres. Flagg for another year. The proposition was passed.

Pres. Flagg then, under the powers granted the President by the constitution, filled the vacancies in the other offices. The officers of the Federation for the coming year are:

President: Arthur L. Flagg, Phoenix, Ariz.
Vice-Pres.: Mrs. Charles W. Lockerbie, Salt Lake City, Utah.
Sec.-Treas.: Humphrey S. Keithley, Phoenix, Ariz.

Junius J. Hayes, Pres.
Mineralogical Society of Utah.

Mineralogical Society of Arizona

The following officers have been named for the 1943-44 season:

President: Arthur L. Flagg
Vice President: Luther Steward
Secretary: Dr. George G. McKhann
Treasurer: H. B. Holloway

Committee Chairmen:
Membership: Humphrey S. Keithley
Program: Luther Steward
Nominating: Scott Noviel
Executive: The above members

A course in determinative mineralogy will be the principal subject for our future meetings.

Despite the usual shifting of our population and the expected non-renewals, our present membership is greater than at the close of the past season. The local interest being shown in mineralogy is most encouraging.

H. S. Keithley.

VRECO IMPROVED DIAMOND SAWS

★ Since Pearl Harbor VRECO has devoted its entire efforts toward providing the radio crystal and other essential war industries with thousands of VRECO DIAMOND SAWS.

★ We are now permitted to sell a limited number of these IMPROVED VRECO DIAMOND SAWS to civilian users.

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6-inch.....**$4.50** 10-inch.....**$6.90**

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14-inch.....**$11.00**

Be sure to state arbor hole size

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